

**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554**

In the Matter of)	
)	
Review of the Spectrum Sharing Plan Among)	
Non-Geostationary Satellite Orbit Mobile Sat-)	IB Docket No. 02-364
ellite Service Systems in the 1.6/2.4 GHz)	
Bands)	
)	
Amendment of Part 2 of the Commission's)	ET Docket No. 00-258
Rules to Allocate Spectrum Below 3 GHz for)	
Mobile and Fixed Services to Support the In-)	
troduction of New Advanced Wireless Ser-)	
vices, including Third Generation Wireless)	
Systems)	

**SPRINT REPLY TO CONSOLIDATED OPPOSITION TO
PETITIONS FOR RECONSIDERATION**

Sprint Corporation ("Sprint"), pursuant to Section 1.429(g) of the Federal Communications Commission's ("FCC" or "Commission") Rules, submits this reply to the Consolidated Opposition to Petitions for Reconsideration ("Consolidated Opposition") of the *Fourth R&O*¹ filed by Globalstar LLC ("Globalstar").² Sprint presented its views on the deficiencies of the *Fourth R&O* along with Sprint's requested relief in its Petition for Reconsideration of that decision.³

¹ *Review of the Spectrum Sharing Plan Among Non-Geostationary Satellite Orbit Mobile Satellite Service Systems in the 1.6/2.4 GHz Bands and Amendment of Part 2 of the Commission's Rules to Allocate Spectrum Below 3 GHz for Mobile and Fixed Service to Support the Introduction of New Advanced Wireless Services, including Third Generation Wireless Systems*, IB Docket No. 02-364 and ET Docket No. 00-258, Report and Order, Fourth Report and Order and Further Notice of Proposed Rulemaking, FCC 04-134, (rel. July 16, 2004) ("*Fourth R&O*").

² Petition for Reconsideration of Globalstar, IB Docket No. 02-364 (filed Sept. 8, 2004) ("Globalstar Petition").

³ Petition for Partial Reconsideration of Sprint Corporation, IB Docket No. 02-364 (filed Sept. 8, 2004) ("Sprint Petition"). Similar petitions were submitted by the Wireless Communications Association, International ("WCA") and Nextel Communications, Inc. ("Nextel"). See Petition for Partial Reconsidera-

I. INTRODUCTION

In the *Fourth R&O* the Commission added a “terrestrial fixed and mobile service except aeronautical mobile” allocation to the 2495-2500 MHz band, so that Broadband Radio Service (“BRS”) Channel 1 licensees⁴ previously allocated to the 2150-2156 MHz band can be relocated to the 2496-2502 MHz band.⁵ As explained in the Sprint Petition, this allocation subjects BRS Channel 1 stations to harmful interference from co-channel Mobile Satellite Service (“MSS”) operations, Industrial, Scientific and Medical (“ISM”) operations, Broadcast Auxiliary Service (“BAS”) operations and certain non-BAS, private radio operations, while leaving BRS Channel 1 with no apparent remedy. BRS Channel 1 was not subject to these types of co-channel interference sources in the spectrum from which it was involuntarily relocated.

There is no dispute that BRS Channel 1 operations cannot coexist alongside MSS and BAS operations in the 2496-2500 MHz band. To remedy this situation, Sprint, WCA and Nextel proposed, among other things, that the MSS allocation be eliminated from the 2496-2500 MHz band and that incumbent BAS stations be relocated to other spectrum. In its response, Globalstar’s Consolidated Opposition asserts that BRS Channel 1 operations should be moved out of

tion of Wireless Communications Association, International, IB Docket No. 02-364 (“WCA Petition”), and Petition for Reconsideration of Nextel Communications, Inc. (“Nextel Petition”) (both filed Sept. 8, 2004).

⁴ Although the Commission’s recent decision to change the names of the Multipoint Distribution Service (“MDS”) to the BRS and Instructional Television Fixed Service (“ITFS”) to the Educational Broadband Service (“EBS”) is not yet effective, Sprint uses the BRS and EBS monikers throughout this document.

⁵ This decision to make the 2496-2500 MHz band available for BRS Channel 1 operations is being made in conjunction with the Commission’s overhaul of the BRS band plan and service rules in WT Docket No. 03-66. See *Amendment of Parts 1, 21, 73, 74 and 101 of the Commission’s Rules to Facilitate the Provision of Fixed and Mobile Broadband Access, Educational and Other Advanced Services in the 2150-2162 and 2500-2690 MHz Bands*, Report and Order and Further Notice of Proposed Rulemaking, 19 FCC Rcd 14165 at ¶ 38 (2004) (“BRS/EBS Order”).

the 2496-2500 MHz band or, in the alternative, should be subject to certain technical restrictions that would effectively render BRS Channel 1 useless.

Globalstar's Consolidated Opposition basically rehashes the same flawed proposals and contentions contained in its Petition and must be rejected. Sprint submitted an Opposition to Petitions for Reconsideration which exposes the numerous fallacies and inaccuracies in the positions and relief requested in Globalstar's Petition, and hereby incorporates those arguments by reference in this reply to Globalstar's Consolidated Opposition.⁶ In short, Globalstar's proposal to remove BRS Channel 1 from the 2496-2500 MHz band relies upon erroneous assertions of fact and is contrary to the Commission's rules and policies governing this issue. The MSS-BRS sharing proposal in the Consolidated Opposition is similarly contrary to the Commission's policies as well as prior Globalstar filings on the issue of terrestrial-MSS sharing.

II. The Commission Should Reject Globalstar's Proposal To Remove The BRS Allocation From The 2496-1500 MHz Band Segment And Remove MSS Instead

As explained in the Sprint Petition, the terrestrial fixed/mobile allocation added to the 2495-2500 MHz band to provide relocation spectrum for BRS Channel 1 licensees previously allocated to the 2150-2156 MHz band does not provide adequate technical restrictions to protect the primary BRS Channel 1 stations against interference from MSS operations.⁷ To remedy the harmful co-channel interference that all parties to this proceeding agree will result from mixing BRS Channel 1 operations alongside MSS operations in the 2496-2500 MHz band, Sprint requested that the Commission eliminate the co-primary allocation for Big LEO MSS in the 2496-2500 MHz band. Globalstar's Consolidated Opposition contends that BRS Channel 1 licensees

⁶ Opposition to Petitions for Reconsideration of Sprint Corporation, IB Docket No. 02-364 (filed Oct. 27, 2004) ("Sprint Opposition").

⁷ See Sprint Petition at 3-6; WCA Petition at 7-11, and Attachment A. See also Nextel Petition at 4.

should be removed from the 2496-2500 MHz band instead of MSS on the basis that BRS licensees do not use their spectrum and therefore cannot expect to have it fully replaced upon relocation. Globalstar's contention is both factually and legally without merit.

To begin with, the assertion that BRS Channel 1 spectrum is and has not been used is wrong. Sprint, for example, currently provides broadband service in more than a dozen geographic markets using its BRS Channel 1 spectrum⁸ – all of which would be forced to shut down under Globalstar's proposals.⁹ The BRS Rural Advocacy Group, which also opposed Globalstar's proposals, indicates significant usage of BRS Channel 1 spectrum by its members to provide broadband and other services.¹⁰ BellSouth Corporation indicates that is developing broadband service under various BRS Channel 1 licenses it holds covering markets in the southeastern U.S.¹¹ Further, the deployment of fixed and mobile broadband services in this spectrum is expected to be facilitated by the restructuring of the BRS/EBS band just established under the *BRS/EBS Order* and the commercial availability of next-generation equipment that will follow.

Globalstar's characterization of the Commission's relocation policies as supporting its call to remove BRS Channel 1 from the 2596-2500 MHz band is also erroneous. As explained in

⁸ These markets include Fresno, CA; Oklahoma City, OK; Salt Lake City, UT; Tucson, AZ; Wichita, KS; Chicago, IL; Detroit, MI; Houston, TX; Phoenix, AZ; San Jose, CA; and San Francisco, CA.

⁹ Globalstar asserts that clearing the 2496-2500 MHz band for BRS Channel 1 licensees is "unjustified," because "BRS has 148 MHz in the 2500-2690 MHz band in which to operate." Globalstar Consolidated Opposition at 4 (*italics omitted*). Under the band plan adopted in the *BRS/EBS Order*, however, BRS has been allocated only 70.5 MHz (not including BRS 1), and Sprint suspects there are BRS Channel 1 licensees that have little or no spectrum holdings in the BRS/EBS band. In any event, BRS and EBS licensees have already seen their spectrum reduced by the Commission's decision to relocate BRS Channel 1 and 2 into the BRS/EBS band previously allocated to 2500-2690 MHz. Taking yet another 4 MHz from these licensees would require reconfiguring the entire band plan and further diminishing the expectations of licensees therein – many of whom have no linkage whatsoever to the BRS Channel 1 spectrum.

¹⁰ See Opposition of the BRS Rural Advocacy Group, IB Docket No. 02-364 (filed Oct. 27, 2004) at 2-4.

¹¹ See Opposition of Bellsouth Corporation, et al., IB Docket No. 02-364 (filed Oct. 27, 2004) at 2.

the Sprint Opposition, the Commission's relocation policies developed in various proceedings generally seek to ensure that relocated licensees are no worse off than they were prior to relocation,¹² and in particular, seek to ensure that the new primary service (in this case, BRS Channel 1) will not experience interference from incumbent secondary services, by removing such secondary services, if necessary.¹³ Globalstar's contention that the relocation policies developed in the Emerging Technologies proceeding only seek to provide replacement spectrum equivalent to the relocated licensee's actual usage at the time of relocation is misplaced.¹⁴ The services being relocated in the Emerging Technologies proceeding – private operational fixed and common carrier microwave operations – were site-based, first-come, first-served licenses, having limited transport and throughput requirements. Relocated licensees generally could simply apply for another license covering a different channel in the replacement spectrum if and when they required more spectrum. In contrast, BRS Channel 1 operations will be providing spectrally-efficient, cellularized, mobile broadband services over a wide geographic area. Also unlike those relocated licensees, many BRS Channel 1 incumbents paid for their spectrum either at auction or in the secondary markets.

¹² See, e.g., *Amendment to the Commission's Rules Regarding a Plan for Sharing the Costs of Microwave Relocation*, First Report and Order and Further Notice of Proposed Rule Making, 11 FCC Rcd 8825, 8842 at ¶ 32 (1996) ("In sum, our goal is to ensure that incumbents are no worse off than they would be if relocation were not required . . .").

¹³ See, e.g., *Redesignation of the 17.7-19.7 GHz Frequency Band, Blanket Licensing of Satellite Earth Stations in the 17.7-20.2 GHz and 27.5-30.0 GHz Frequency Bands, and the Allocation of Additional Spectrum in the 17.3-17.8 GHz and 24.75-25.25 GHz Frequency Bands for Broadcast Satellite-Service Use*, Report and Order, 15 FCC Rcd 13430, 13467 at ¶ 76 (2000). See also *Amendment of Section 2.106 of the Commission's Rules to Allocate Spectrum at 2 GHz for Use by the Mobile-Satellite Service*, Second Report and Order and Second Memorandum Opinion and Order, 15 FCC Rcd 12315, 12361 at ¶ 133 (2000).

¹⁴ Globalstar Consolidated Opposition at 5-6.

III. The Commission Should Reject Globalstar's Proposal For MSS-BRS Band Sharing

As the Sprint Opposition explained, the technical restrictions which Globalstar proposes to place upon BRS Channel 1 licensees to protect MSS operations¹⁵ are contrary both to the fixed/mobile allocation under which BRS Channel 1 licensees will operate within the 2495-2500 MHz band as well as the purposes which prompted the Commission to relocate BRS Channel 1 to the 2496-2502 MHz band in the first place.¹⁶ The Globalstar Consolidated Opposition adds nothing new to its previous contentions already debunked by the Sprint Opposition. Nonetheless, it is worthwhile to reiterate the flaws in Globalstar's position.

First, Globalstar's contention that the Commission granted it 16.5 MHz of L-Band spectrum is erroneous. Globalstar concedes that it was never granted more than 8.25 MHz of exclusive spectrum in the L-Band, and contends that the Commission left the issue of S-Band spectrum access to be decided in what would ultimately become the instant proceeding.¹⁷ That assessment basically is correct. Globalstar goes on to contend, however, that "[b]ased on the facts in the record, the Commission decided that Globalstar needed access to all 16.5 MHz of the S-band."¹⁸ That assessment is mistaken. In fact, the Commission stated that "CDMA MSS operators need essentially exclusive access to about 11.5 megahertz (8.25 megahertz unshared in L-band x 1.4) in the S-band to utilize their spectrum most efficiently, i.e., to retain the 1 to 1.4 pro-

¹⁵ To protect MSS operations from BRS Channel 1 operations, Globalstar requests that the Commission: (1) limit BRS 1 operations to the top 35 Metropolitan Statistical Areas ("MSAs"); (2) limit BRS 1 base stations to 600 W; and (3) limit the out-of-band emissions of BRS Channel 1 users, for 99 percent of the time, to an aggregate not to exceed -209 dBW/Hz at any point outside of the top 35 MSA boundaries in the 2483.5-2500 MHz range. See Globalstar Petition at 12; Globalstar Consolidated Opposition at 9.

¹⁶ See Sprint Opposition at 3-7.

¹⁷ See Globalstar Consolidated Opposition at 11. As the Commission made clear, "[we] never granted unconditional authority for Globalstar to operate across the entire 1610-1621.35 MHz band originally assigned for shared use by multiple CDMA systems." *Fourth R&O* at ¶ 53 (citations omitted).

¹⁸ Globalstar Consolidated Opposition at 12.

portion of spectrum usage.”¹⁹ Accordingly, granting Globalstar exclusive access to more than 11.5 megahertz of spectrum in the S-Band (*i.e.*, to spectrum above 2495 MHz) cannot be justified under the operational parameters that Globalstar itself has established as sufficient.²⁰

Moreover, Globalstar’s contention that BRS-MSS sharing is technically feasible is inconsistent with its recent submissions in the MSS Ancillary Terrestrial Component (“ATC”) proceeding (IB Docket No. 01-185). As pointed out in the Sprint Opposition, the notion that BRS Channel 1 stations would not be encompassed within the MSS system’s downlink footprint is difficult to fathom, given that MSS satellites utilize wide-area, spot-beam downlink transmissions that are likely to encompass BRS stations.²¹ Globalstar suggests that it can control the regional overlay of its spot-beams “based on a complex resource allocation scheme,”²² but in promoting the same kind of scheme in the ATC proceeding, Globalstar concluded that “[t]here is absolutely no chance that two different operators of two separate mobile systems could success-

¹⁹ *Fourth R&O* at ¶ 66.

²⁰ See Sprint Opposition at 7. As Sprint explained, for the 1:1.4 ratio of equivalent spectrum capacity between the L- and S-Bands to make sense, access to the spectrum within these bands must be exclusive. Globalstar argues that it has access to 3.1 MHz of L-Band spectrum at 1618.25-1621.35 MHz and thus needs an additional 4 MHz of S-Band spectrum at 2496-2500 MHz to maintain the 1:1.4 ratio. Access to this additional 3.1 MHz of spectrum, however, is on a shared basis with Iridium’s TDMA MSS system, and neither Globalstar nor Iridium’s system can occupy the same spectrum simultaneously. Accordingly, in instances where Globalstar lacks access to a full 11.35 MHz of L-Band spectrum, because of ceded capacity in the 1618.25-1621.35 MHz band to Iridium’s TDMA system, granting it exclusive access to S-Band spectrum above 2495 MHz would result in L-Band capacity to S-Band capacity ratios that exceed the 1:1.4 balance that Globalstar claims is sufficient.

²¹ As Globalstar explained in the ATC proceeding, “Because the beam patterns used by non-geostationary satellite systems are large relative to a city or urban area, the terrestrial component would cause harmful interference in areas substantially beyond the targeted ATC service areas, and the areas would shift as the beams from each satellite cross the United States.” Globalstar, L.P., Response to FCC Public Notice DA 02-554, IB Docket No. 01-185 and ET Docket No. 95-18 (filed March 22, 2002) (“*Globalstar Response*”) at 5-6.

²² Globalstar Consolidated Opposition at 10.

fully accomplish such coordination [of a terrestrial mobile service and MSS service].”²³ Globalstar has not presented evidence that the myriad technical problems associated with coordinating satellite and terrestrial operations is achievable when these operations are controlled by separate entities, as they would be in the MSS-BRS context. Indeed, Globalstar further rejected the idea of segmenting the S-Band between terrestrial ATC operations and MSS satellite operations on spectral efficiency grounds, concluding that “band splitting is not spectrum efficient because neither operator would be able to coordinate dynamically the use of satellite and ATC spectrum to mitigate capacity lost to interference.”²⁴

Globalstar’s proposal to limit BRS Channel 1 operations to the top 35 MSAs in order to implement its spectrum sharing scheme is inconsistent with the geographic separation between MSS and BRS Channel 1 operations identified by the Commission. Specifically, as Globalstar’s Opposition concedes, the Commission suggested that BRS Channel 1 licensees would operate in “urban, suburban, and somewhat developed rural areas” whereas MSS would operate in “very rural and undeveloped areas with little or no existing communications infrastructure.”²⁵ It should be readily discernable from the list of top 100 MSAs on the Commission’s web site,²⁶ that the bottom 65 MSAs to which Globalstar requests exclusive access – which include such MSAs as Las Vegas, NV, New Orleans, LA, Buffalo, NY, Knoxville, TN, and Ann Arbor, MI, to name but a few sprawling metropolitan areas – are neither “very rural” nor “undeveloped areas with

²³ *Globalstar Response* at 5 (see also Technical Analysis appended thereto at 25). See also Comments of Globalstar, L.P., and L/Q Licensee, Inc., IB Docket No. 01-185 and ET Docket No. 95-18 (filed Oct. 22, 2001) (“*Globalstar ATC Comments*”) at 16 (“Dynamic band sharing is technically feasible only with an integrated satellite-terrestrial network, under the control of one party.”).

²⁴ *Globalstar Response* at 6-7. See also *Globalstar ATC Comments* at 15.

²⁵ *Fourth R&O* at ¶ 72 (*italics added*); *Globalstar Consolidated Opposition* at 8.

²⁶ See <http://wireless.fcc.gov/wlnp/documents/top100.pdf>.

little or no existing communications infrastructure.” In any event, the notion of limiting BRS deployments to urban areas is inconsistent with the Commission’s goals of encouraging wide-spread service deployment throughout all areas of the country.²⁷

IV. Conclusion

For the reasons set forth above and in the Sprint Opposition, Sprint respectfully requests that the Commission reject Globalstar’s proposals to remove BRS Channel 1 from the 2496-2500 MHz spectrum or impose technical restrictions upon BRS Channel 1 operations.

Respectfully submitted,

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²⁷ See, e.g., *Facilitating the Provision of Spectrum-Based Services to Rural Areas and Promoting Opportunities for Rural Telephone Companies To Provide Spectrum-Based Services*, Report and Order and Further Notice of Proposed Rulemaking, WT Docket No. 02-381, FCC 04-166 (rel. Sept. 27, 2004) at ¶ 4 (“One of the Commission’s primary statutory obligations, as well as one of its principal public policy objectives, is to facilitate the widespread deployment of facilities-based communications services to all Americans, including those doing business in, residing in, or visiting rural areas.”).

CERTIFICATE OF SERVICE

I hereby certify that, on this 8th day of November, 2004, copies of this ***REPLY TO CONSOLIDATED OPPOSITION TO PETITIONS FOR RECONSIDERATION*** in IB Docket No. 02-364 and ET Docket No. 00-258 were sent by e-mail or First Class Mail, postage prepaid, to the parties listed below.

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